Feeding Around the Non-Protein Nitrogen in Alfalfa Silage

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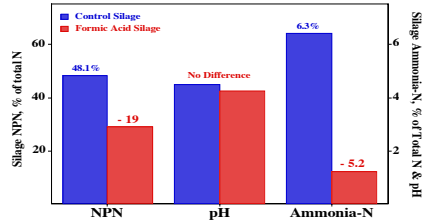
INTRODUCTION

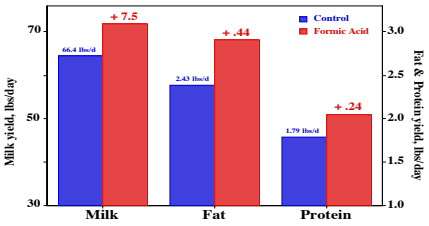
When ensiled, as much as 60% of alfalfa crude protein gets broken down to non-protein nitrogen (NPN); NPN is used inefficiently by dairy cows. Scientists at the Dairy Forage Center found that NPN formation in alfalfa silage reduced milk protein yield as much as 15%. Bypass proteins have their biggest impact in cows fed alfalfa silage. Center researchers are working on practical ways to reduce NPN in ensiled alfalfa.

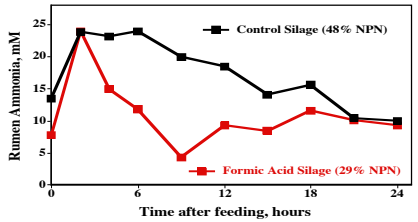
EXPERIMENTS

1. Alfalfa Silage Untreated (Control) versus Alfalfa Silage Treated with Formic Acid (to Reduce NPN).
2. Roasted Soybeans Compared to Solvent Soybean Meal & Raw Soybeans as Proteins fed with Alfalfa Silage.
3. High Bypass Fish Meal Compared to Soybean Meals & Regular Fish Meal as Proteins fed with Alfalfa Silage.
4. Processing Tested on High Moisture Corn Grain fed with Alfalfa Silage.

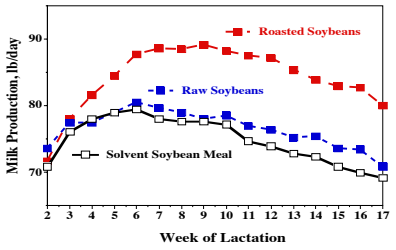
EXPERIMENT 1



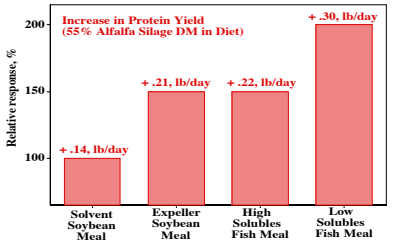




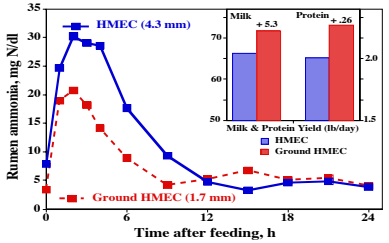
EXPERIMENT 2



EXPERIMENT 3



EXPERIMENT 4



SUMMARY

1. Reducing NPN in Alfalfa Silage Improves Its Protein Value by 10-15%.
2. High Bypass Proteins are Important Supplements for Alfalfa Silage.
3. Expeller Soybean Meal is 50%, and Low-Soluble Fish Meal 100%, Better than Solvent Soybean Meal.
4. Processing High Moisture Corn to Reduce Particle Size Improves it as a Supplement for Alfalfa Silage NPN.